

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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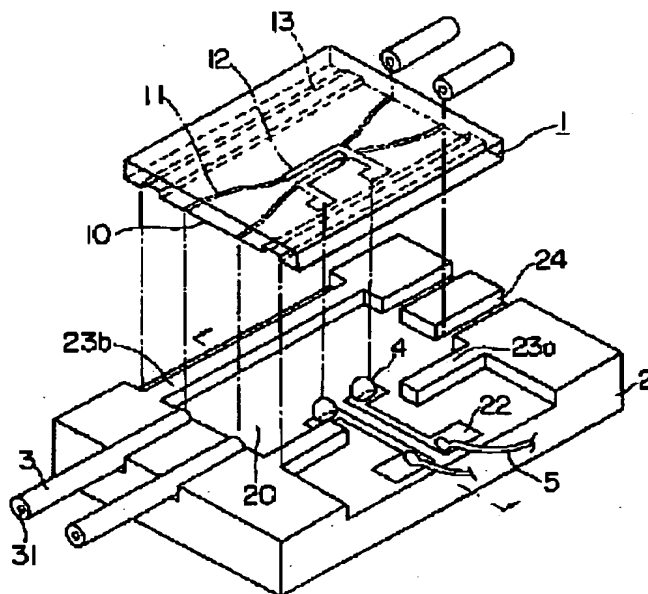
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APPLICATION NUMBER : 04064828

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INVENTOR : SEMURA SHIGERU;

INT.CL. : G02B 6/12 G02B 6/30 G02F 1/313

TITLE : OPTICAL WAVEGUIDE DEVICE



**ABSTRACT :** **PURPOSE:** To provide the device which suppresses the loss by optical axis misalignment, etc., and improves the efficiency of the operation required for connecting to optical parts and the operation for connecting wirings to electrodes.

**CONSTITUTION:** Two pieces of recessed line parts 13 are formed on both sides of an optical waveguide substrate 1. Optical waveguides 11 and the electrodes 12 for impressing electric fields to the optical waveguides 11 are formed on a projecting part 10 of the rear surface held by these parts. Projecting line parts 23a, 23b and a recessed part 20 of the front surface are formed atop a substrate 2 for installation. These projecting line parts 23a, 23b are respectively fitted to the recessed line parts 13 of the optical waveguide substrate 1. Electrode leader patterns 22 are joined at one end to the electrodes 12 via bumps 4. The other ends are connected to the wirings 5. The optical axes of the optical waveguides 11 at the end face of the optical waveguide substrate 1 and the cores 31 of optical fibers 3 installed in grooves 24 for the optical fibers formed on the substrate 2 for installation are approximately aligned.

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